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**Table 5.03-- TIME DIFFERENCES BETWEEN HONOLULU AND  
SELECTED CITIES**

[Standard time]

City	Country	Day	Hour	Time difference
Honolulu	United States	Same	9:00 a.m.	-
Anchorage	United States	Same	10:00 a.m.	+1
Vancouver	Canada	Same	11:00 a.m.	+2
Los Angeles	United States	Same	11:00 a.m.	+2
Las Vegas	United States	Same	11:00 a.m.	+2
Denver	United States	Same	12:00 p.m.	+3
Houston	United States	Same	1:00 p.m.	+4
Winnipeg	Canada	Same	1:00 p.m.	+4
Chicago	United States	Same	1:00 p.m.	+4
Atlanta	United States	Same	2:00 p.m.	+5
Miami	United States	Same	2:00 p.m.	+5
Toronto	Canada	Same	2:00 p.m.	+5
Lima	Peru	Same	2:00 p.m.	+5
New York City	United States	Same	2:00 p.m.	+5
Santiago	Chile	Same	3:00 p.m.	+6
Buenos Aires	Argentina	Same	4:00 p.m.	+7
Sao Paulo	Brazil	Same	4:00 p.m.	+7
London	United Kingdom	Same	7:00 p.m.	+10
Madrid	Spain	Same	8:00 p.m.	+11
Paris	France	Same	8:00 p.m.	+11
Frankfurt	Germany	Same	8:00 p.m.	+11
Rome	Italy	Same	8:00 p.m.	+11
Johannesburg	South Africa	Same	9:00 p.m.	+12
Jerusalem	Israel	Same	9:00 p.m.	+12
Moscow	Russia	Same	10:00 p.m.	+13
Baghdad	Iraq	Same	10:00 p.m.	+13
Kabul	Afghanistan	Same	11:30 p.m.	+14.5
Calcutta	India	Next	12:30 a.m.	+15.5
Bangkok	Thailand	Next	2:00 a.m.	+17
Singapore	Singapore	Next	3:00 a.m.	+18
Hong Kong	China	Next	3:00 a.m.	+18
Beijing	China	Next	3:00 a.m.	+18
Manila	Philippines	Next	3:00 a.m.	+18
Taipei	Taiwan	Next	3:00 a.m.	+18
Seoul	Korea	Next	4:00 a.m.	+19
Tokyo	Japan	Next	4:00 a.m.	+19
Sydney	Australia	Next	5:00 a.m.	+20
Auckland	New Zealand	Next	7:00 a.m.	+22

Source: 2007 Hawaiian Telcom Services Company, Inc., *The Official Hawaiian Telcom White Pages O'ahu 2007 - 2008*, pp. 20-23, and "Time Zone Converter" at <<http://www.timezoneconverter.com/cgi-bin/tzc.tzc>> accessed November 6, 2007.

**Table 5.12-- MAJOR NAMED WATERFALLS, BY ISLAND**

Island	Waterfall	Height (feet)		Horizontal distance (feet)
		Sheer drop	Cascade	
Hawaii	Kaluahine	(NA)	620	400
	Akaka	442	(NA)	(NA)
	Waiilikahi	320	(NA)	6
Maui	Honokohau	(NA)	1,120	500
	Waihiumalu	(NA)	400	150
Molokai	Kahiwa	(NA)	1,750	1,000
	Papalaua	(NA)	1,200	500
	Waialele	(NA)	500	150
Oahu	Kaliuwaa (Sacred)	1/ 80	1,520	3,000
Kauai	Waipoo (2 falls)	(NA)	800	600
	Awini	(NA)	480	500
	Hinalele	280	(NA)	(NA)
	Wailua	200	(NA)	(NA)

NA Not available.

1/ Refers to the northernmost fall of a cascade of six falls.

Source: U.S. Geological Survey, records; Hawaii State Department of Land and Natural Resources, Commission on Water Resource Management, records; "Tall Falls", *The Honolulu Advertiser*, June 25, 1995, pp. A17 and A20.

**Table 5.13-- MAJOR STREAMS, BY ISLAND**

<b>Island</b>	<b>Feature or stream</b>	<b>Length or average discharge</b>
Longest water feature (miles):		
Hawaii	Wailuku River	32.0
Maui	Kalialinui-Waiale Gulch	18.0
Kahoolawe	Ahupu Gulch	4.0
Lanai	Maunalei-Waialala Gulch	12.9
Molokai	Wailau-Pulena Stream	6.5
Oahu	Kaukonahua Stream (So. Fork)	33.0
Kauai	Waimea River-Poomau Stream	19.5
Niihau	Keanaulii-Puniopo Valley	5.9
Largest perennial stream (miles): 1/		
Hawaii	Wailuku River	22.7
Maui	Palihea Stream	7.8
Molokai	Wailau-Pulena Stream	6.5
Oahu	Kaukonahua Stream	30.0
Kauai	Waimea River	19.7
Streams with greatest average discharge (million gal. / day):		
Hawaii	Wailuku River	180
Maui	Waihee River	50
Molokai	Wailau Stream	30
Oahu	Waikele Stream	2/ 26
Kauai	Hanalei River	129

1/ Estimated on basis of drainage area rather than stream runoff. Other major streams include Wailoa River, Hawaii (1/2-mile long); Honokohau Stream (9.4 miles long) and Iao Stream (5), both on Maui; Halawa Stream (6.4), Waikolu Stream (4.7), and Pelekunu (2.3), all on Molokai; Waikele Stream (15.3), Kipapa Stream (12.8), Waiakakalaua Stream (11.8), Nuuanu Stream (4), and Ala Wai Canal (1.9), all on Oahu; and the Makaweli River (15.1), Wainiha River (13.8), Hanapepe River (13.3), and Wailua River (11.8), all on Kauai.

2/ Most of discharge is from nearby groundwater outflow.

Source: Longest water feature from U.S. Geological Survey, records; other data from Hawaii State Department of Land and Natural Resources, Commission on Water Resource Management, records.

**Table 5.14-- LAKES AND LAKE-LIKE WATERS, BY ISLAND**

Island and lake	Type	Elevation (feet)	Area 1/ (acres)	Maximum depth (feet)
Hawaii:				
Green Lake	Lake	3	2	20
Lake Waiau 2/	Lake	13,020	2	10
Waiakea Pond	Tidal pond	(3/)	27	7
Maui:				
Kanaha Pond	Marsh	(3/)	41	3
Kealia Pond	Marsh	(3/)	500	(NA)
Waieleele	Pond	6,690	0.5	21
Molokai:				
Kauhako	Pool	(3/)	0.9	814
Kualapuu Reservoir	Reservoir	821	100	50
Meyer Lake	Impoundment	2,021	6-10	5
Oahu:				
Ho'omaluhia	Reservoir	202	90	90
Kaelepulu Pond	Lake	(3/)	198	(NA)
Kawainui Marsh	Marsh	(3/)	1,000	(NA)
Wahiawa Reservoir	Reservoir	842	302	85
Kauai:				
Nomilu Fishpond	Pond	(3/)	20	66
Waita Reservoir	Reservoir	241	424	23
Niihau:				
Halalii Lake	Playa	(3/)	841-865	(NA)
Halulu Lake	Playa	(3/)	182-371	(NA)
Laysan:				
Laysan Lagoon	Closed lagoon	(3/)	161	16

NA Not available.

1/ Ranges shown for Meyer Lake, Halalii Lake, and Halulu Lake reflect differences in estimates between sources.

2/ Highest lake in the State and third highest in the United States.

3/ Sea level.

Source: J.A. Maciolek, *Lakes and Lake-like Waters of the Hawaiian Archipelago* (Bernice P. Bishop Museum, Occasional Papers, Vol. XXV, No. 1, April 30, 1982); Hawaii State Department of Land and Natural Resources, Commission on Water Resource Management, May 18, 1994.

**Table 5.23-- WATER SERVICES AND CONSUMPTION, FOR COUNTY  
WATERWORKS: 2005 TO 2007**

[Services as of June 30; consumption during the year ending June 30]

Geographic area	Number of services			Consumption (million gallons)		
	2005	2006	2007	2005	2006	2007
State total	257,802	261,096	265,243	77,171	80,106	80,959
City and County of Honolulu	166,445	168,272	170,055	51,044	52,887	53,297
Honolulu District 1/ Rest of Oahu	64,815	65,576	66,130	23,503	24,295	23,837
	101,630	102,696	103,925	27,541	28,592	29,460
Hawaii County	38,844	39,585	40,681	9,134	9,567	9,914
Kauai County	19,390	19,564	19,825	4,032	4,466	4,490
Maui County	33,123	33,675	34,682	12,961	13,186	13,258
Maui	31,510	32,045	33,032	12,644	12,883	12,961
Molokai	1,613	1,630	1,650	317	303	297

1/ Maunaloa to Moanalua.

Source: Data compiled by Hawaii State Department of Business, Economic Development & Tourism from City and County of Honolulu Board of Water Supply, County of Hawaii Department of Water Supply, County of Kauai Department of Water, and County of Maui Department of Water Supply.

**Table 5.30-- REFUSE AND SEWAGE STATISTICS FOR OAHU:  
1995 TO 2007**

[Fiscal year ending June 30]

Year	Tons of municipal solid waste delivered 1/			Sewage treated 2/ (millions of gallons)
	Total	City and County refuse vehicles	Other vehicles	
1995	1,017,709	325,381	692,328	43,175
1996	959,793	288,057	671,736	41,403
1997	945,081	302,078	643,003	42,616
1998	861,831	295,117	566,714	41,289
1999	830,035	284,007	546,028	40,750
2000	868,588	298,207	570,381	41,444
2001	955,019	326,696	628,323	40,369
2002	897,068	300,833	596,235	40,025
2003	890,275	344,786	545,489	40,524
2004	933,028	350,298	582,730	44,472
2005	952,703	368,288	584,415	40,975
2006	937,726	363,233	574,493	42,275
2007	909,587	433,962	475,625	38,345

  

Year	Sewage pumped 2/ (millions of gallons)	Miles of sewers 2/	City and County pump stations	City and County treatment plants
1995	53,088	1,893	64	8
1996	52,114	1,910	65	8
1997	54,197	1,940	63	8
1998	50,605	1,940	64	8
1999	49,379	1,970	65	8
2000	49,623	2,230	65	8
2001	48,626	2,230	65	8
2002	49,851	2,399	65	8
2003	50,497	3/ 2,205	65	8
2004	50,969	2,212	65	8
2005	44,476	2,268	66	8
2006	44,168	2,268	66	8
2007	43,388	3/ 2,105	67	9

1/ Excludes small landfill controlled by armed forces.

2/ Data limited to system maintained by the City and County of Honolulu, Department of Environmental Services.

3/ GIS editing for more accurate dimensions resulted in a reduction of lateral length.

Source: City and County of Honolulu, Department of Environmental Services, records.

**Table 5.47-- SUNRISE, SUNSET, AND HOURS OF DAYLIGHT AT  
SELECTED LOCATIONS, AT BEGINNING OF EACH SEASON: 2008**

[Based on Hawaii-Aleutian Standard Time which is 10 hours less than Universal Time  
Coordinated (UTC), the international standard for civil time]

Subject	Hilo	Kahului	Honolulu	Lihue
Sunrise (a.m.)				
March 19	6:25	6:30	6:36	6:42
June 20	5:42	5:46	5:50	5:55
Sept. 22	6:09	6:15	6:20	6:26
Dec. 21	6:51	6:58	7:05	7:12
Sunset (p.m.)				
March 19	6:31	6:37	6:42	6:49
June 20	7:02	7:10	7:16	7:24
Sept. 22	6:16	6:21	6:27	6:33
Dec. 21	5:47	5:50	5:55	6:00
Daylight (hours, minutes)				
March 19	12, 06	12, 07	12, 06	12, 07
June 20	13, 20	13, 24	13, 26	13, 29
Sept. 22	12, 07	12, 06	12, 07	12, 07
Dec. 21	10, 56	10, 52	10, 50	10, 48

Source: U.S. Naval Observatory, Astronomical Applications Department  
<<http://aa.usno.navy.mil/data/docs/EarthSeasons.php>> and  
<[http://aa.usno.navy.mil/data/docs/RS\\_OneYear.php](http://aa.usno.navy.mil/data/docs/RS_OneYear.php)> accessed November 5, 2007;  
calculations by the Hawaii State Department of Business, Economic Development & Tourism.



**Table 5.48-- SUNRISE, SUNSET, AND HOURS OF DAYLIGHT AT  
SELECTED LOCATIONS, AT BEGINNING OF EACH SEASON: 2009**

[Based on Hawaii-Aleutian Standard Time which is 10 hours less than Universal Time  
Coordinated (UTC), the international standard for civil time]

Subject	Hilo	Kahului	Honolulu	Lihue
Sunrise (a.m.)				
March 20	6:24	6:30	6:35	6:41
June 20	5:42	5:46	5:50	5:55
Sept. 22	6:09	6:15	6:20	6:26
Dec. 21	6:50	6:58	7:05	7:12
Sunset (p.m.)				
March 20	6:32	6:37	6:43	6:49
June 20	7:02	7:10	7:16	7:23
Sept. 22	6:16	6:22	6:27	6:33
Dec. 21	5:47	5:50	5:55	6:00
Daylight (hours, minutes)				
March 20	12, 08	12, 07	12, 08	12, 08
June 20	13, 20	13, 24	13, 26	13, 28
Sept. 22	12, 07	12, 07	12, 07	12, 07
Dec. 21	10, 57	10, 52	10, 50	10, 48

Source: U.S. Naval Observatory, Astronomical Applications Department  
<<http://aa.usno.navy.mil/data/docs/EarthSeasons.php>> and  
<[http://aa.usno.navy.mil/data/docs/RS\\_OneYear.php](http://aa.usno.navy.mil/data/docs/RS_OneYear.php)> accessed November 5, 2007;  
calculations by the Hawaii State Department of Business, Economic Development & Tourism.

**Table 5.54-- THREATENED AND ENDANGERED SPECIES, FOR THE  
UNITED STATES AND HAWAII**

[As of November 6, 2007]

Group	United States	Hawaii
Animal species	863	98
Amphibians	36	-
Arachnids	13	1
Birds	126	35
Clams	118	-
Corals	2	-
Crustaceans	30	7
Fishes	176	-
Insects	95	23
Mammals	116	3
Reptiles	48	4
Snails	103	25
Plant species	903	359
Conifers and cycads	3	-
Ferns and allies	31	16
Flowering plants	867	343
Lichens	2	-

Source: U.S. Fish & Wildlife Service, Threatened and Endangered Species System (TESS)  
<[http://ecos.fws.gov/tess\\_public/StartTESS.do](http://ecos.fws.gov/tess_public/StartTESS.do)> accessed November 6, 2007